

L 17675-63

ACCESSION NR: AP3006039

II. ¹⁶insky equation for dilute solutions of non-electrolytes, they proved to be true solutions. Calculation of the heat of solution over the temperature range employed gave 6000, 6200, and 10,300 cal/mol for methyl-, vinyl-, and diacetylene, respectively. Solubility was determined from the volumes of acetylene hydrocarbons in acetone, using Biron's equation for true solutions, and the volume ratios proved to be adequately expressed by the equation for ideal solutions. The relationship between the molar volume of the solutions and their molar ratio in solutions at -40C is shown in Figure 6 of the Enclosure, the density of the 3 hydrocarbons in the liquid state in Table 3. Orig. art. has: 4 equations, 6 figures, 3 tables.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 11Sep63

ENCL: 02

SUB CODE: CH

NO REF SOV: 007

OTHER: 005

Card

2/12

SHAKHOVA, S.F.; BRAUDE, G.Ye.

Phase equilibria and volume ratios in the systems acetone-
acetylenic hydrocarbons. Khim. prom. no.6:436-440 Je '63.

(MIRA 16:8)

(Acetone) (Hydrocarbons)
(Phase rule and equilibrium)

SHAKHOVA, S.F.; BRAUDE, G.Ya.

Solubility in the systems liquid ammonia - acetylenic hydro-
carbons at low temperatures. Khim.prom. no.7:510-513 J1 '63.
(MIRA 16:11)

IVANOVSKIY, F.P.; BRAUDE, G.Ye.; SEMENOVA, T.A.

Kinetics of the interaction of carbon monoxide and steam at
elevated pressure. Kin. i kat. 5 no.3:563-564 My-Je '64.
(MIRA 17:11)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut azotnoy
promyshlennosti.

SHAKHOVA, S.F.; BRAUDE, G.Ye.

Liquid-gas equilibrium in the systems liquid ammonia - acetylenic hydrocarbons. Khim. prom. 40 no.12:906-909 D '64.

(MIRA 18:2)

BRAUDE, G.Ye.; DEDOVA, I.V.; SHARHOVA, S.F.

Solubility of acetylenic hydrocarbons in N-methyl-2-pyrrolidone and
its aqueous solution. Khim. prom. 41 no.3:186-188 Mr '65. (MIRA 18:7)

74
BRAYDE, I. D.

27836. Brayde, I. D. obleseniye ovragov i balok. les i step', 1949, No. 1
s. 50-56

SO: Letopis' Zhurnal'nykh Statey, Vol. 57, 1949

BRAUDE, I.D.

25113. BRAUDE, I.D. K Voprosu Lesomeliioratsii Sil'no Erodirovannykh Pochv Yugo-
vostoka Refsr. Trudy Yubileyivoy Sessii, Posvyashch. Stoletiyu So Dnya
Rozhdeniya Dokuchayeva. M.-L., 1949, S. 417-23

SO: Letopis' No. 33, 1949

BRAUDE, I. D.

Forest influences

Location of shelterbelts in eroded areas of the central forest-and-steppe region.,
Les 1 step', 4, no. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1952
~~1952~~, Uncl.

BRAUDE, I. D.; N. F. VAS'KOVSKIY

Obleseniye Ovragov i Balok (Afforestation of Gullies and Ravines, By)
I. Do. Braude I. 2. Perer. I dop. izd. Moskva, Goslesbunizdat, 1953.
121 p. Illus., Diagr., Tables.

So: N/5
729.41
1953

SITKOVSKIY, P.A.; KOMAROV, G.V.; BRUSENTSEV, V.F.; KREMENTSKIY, N.N.;
MAMAYEV, M.G., kand.tekhn.nauk; SMIRNOV, A.V., kand.tekhn.nauk;
AFANAS'YEV, I.V.; VOLOD'KO, I.F., kand.tekhn.nauk; BEGLYAROV, S.A.;
KONDRAT'YEV, V.V.; KARLINSKAYA, M.I.; NIKOLAYEV, M.I., kand.tekhn.
nauk; DOROKHOV, S.M.; PISHCHUROV, P.V.; KLIMENTOVA, A.V.; ROZENBLAT,
Zh.I.; PANDEYEV, V.V., kand.tekhn.nauk; KULIKOV, P.Ye.; SHIMANOVICH,
S.V.; DELITSIN, M.V., retsenzent; BRAUDE, I.D., retsenzent; BARYSHEV,
A.M.; retsenzent; GRIGORYANTS, A.S., retsenzent; IGNATYUK, G.L.,
retsenzent; KALABUGIN, A.Ya., retsenzent; KREMENTSKIY, N.D.,
retsenzent; POPOV, K.V., retsenzent; ORLOVA, V.P., red.; LETNEV,
V.Ya., red.; SOKOLOVA, N.N., tekhn.red.; FEDOTOVA, A.F., tekhn.red.

[Handbook for hydraulic and agricultural engineers] Spravochnik
gidrotekhnika melioratora. Moskva, Gos.izd-vo sel'khoz.lit-ry,
1958. 766 p. (MIRA 12:3)
(Hydraulic engineering) (Agricultural engineering)

Country : USSR J
Category= : Soil Science. Fertilizers.
Abs. Jour. : Ref Zhur-Biologiya, No. 4, 1959, No. 15445
5 Author : Sobolev, SS; Braude, I.D.
Institut. : --
Title : Soil Erosion and Water Preservation Are Urgent Governmental Problems.
Orig. Pub. : Lesn. kh-vo, 1958, No. 6, 4-9
Abstract : No abstract.

Card: 1/1

BRAUDE, Izrail' Danilovich, kand.sel'skokhoz.nauk; KOREYSHO, Ye.G., red.;
~~GUREVICH, M.M., tekhn.red.~~

[Consolidation and reclamation of ravines, gullies, and steep
slopes] Zakreplenie i osvoenie ovragov, balok i krutykh sklonov.
Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 280 p. (MIRA 12:12)
(Soil conservation)

MATYAKIN, G.I.; NIKITIN, P.D.; KOZMENKO, A.S.; BRAUDE, I.D.; MIRONOV, V.V.;
MATYUK, I.S.; BEREZINA, V.M.; MININ, D.D.; ISHIN, D.P.; MOROZOV,
I.B.; GOLYATO, G.O.; CHASHKIN, M.I.; KOREYSHO, Ye.G., red.; GUREVICH,
M.M., tekhn.red.

[Reference book for workers in the field of land improvement
through afforestation] Spravochnik agrolesomelioratora. Izd.3.
Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 308 p.

(MIRA 13:6)

(Afforestation)

BRAUDE, I.D.

Using silvicultural land improvement measures for controlling
soil erosion in the European U.S.S.R. Pochvovedenie no.6:35-41
Je '59. (MIRA 12:9)

1. Vsesoyuznyy nauchno--issledovatel'skiy institut agrolesoma-
lioratsii.

(Soil conservation)

MAMEDOV, Tofik Musayevich; BRAUDE, I.D., red.; FUKS, Ye.A., red.izd-va;
PARAKHINA, N.L., tekhn.red.

[Flash floods and silvicultural measures for controlling them]
Selevyie potoki i lesovodstvennyye mery bor'by s nimi. Moskva,
Goslesbumizdat, 1960. 88 p. (MIRA 13:9)
(Azerbaijan--Erosion) (Forest influences)

BRAUDE, I.D., kand.sel'skokhozyaystvennykh nauk

Erosion control. Vest.AN SSSR 31 no.3:121-123 Mr '61.
(Erosion) (MIRA 14:3)

BRAUDE, I. D.

BRAUDE, Izrail' D. — "Methods of forest improvement to prevent erosion"

LOPATIN, G. V. — "The intensity of water erosion on the territory of the USSR"

MESHCHERYAKOV, Yuriy A. — "The influence of movement of the crust of the earth on erosion processes"

PRESNYAKOVA, Galina A. — "Soil erosion caused by the irregular flow of ground waters and methods of combatting it"

SILVESTROV, S. I. — "On the division of territories subject to erosion in the USSR"

SOBOLEV, Sergey S. — "The principal types of soil erosion and the geographic distribution of erosion factors in the territory of the USSR"

reports to be submitted for the Intl. Association of Scientific Hydrology,
Symposium on Continental Erosion, Bari, Italy 1-6 Oct 1962
sponsored by IUGG

BRAUDE, Izrail' Danilovich; SOBOLEV, S.S., akademik, prof., otv.
red.

[Soil erosion, drought and their control in the Central
Chernozem Region] Eroziia pochv, zasukha i bor'ba s nimi
v TsChO. Moskva, Nauka, 1965. 138 p. (MIRA 18:7)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk
imeni V.I. Lenina (for Sobolev).

BRADY, I. L.

Medicine

DECEASED c.'62

1962/
/6

see ILC

BRAUDE, I.Ye., kand.tekhn.nauk.

Forty years of Soviet boiler construction. Bezop.truda v prom.
1 no.11:23-25 N '57. (MIRA 10:10)

1.Podol'skiy mashinostroitel'nyy zavod im. Ordzhonikidze.
(Boilers)

BRAUDE, I.Ye., inzh.; RODDATIS, K.F., kand.tekhn.nauk

Development of boiler building for heat-power plants in the U.S.S.R.
during the past 40 years. Elek.sta. 28 no.11:31-39 N '57.

(Boilers)

(MIRA 10:11)

Braude, I. Ye.

BRAUDE, I.Ye., inzh.

Development of the manufacture of boilers used in electric power
stations. Vest.mash. 37 no.12:3-6 D '57. (MIRA 10:12)
(Boilers--Designs)

BRAUDE, I.Ye., inzh., red.; BARSUKOV, M.N., red.; PETROV, S.P.,
tekhn.red.

[Materials of the 5th World Power Conference in Vienna]
Materialy Piatoi mirovoi energeticheskoi konferentsii v
Vene . Moskva, TSentr.biuro nauchno-tekhn.informatsii
tiaznelogo mashinostroeniia. Vol.1. [Steam boilers] Paro-
vye kotly. 1958. 284 p.
(MIRA 13:1)

1. World Power Conference. 5th, Vienna, 1956.
(Boilers)

BRAUDE, I.Ye. ZHIRNOV, N.I.; PARSHIN, A.A.; ROZENGAUZ, I.N.; STENING,
A.I.; UVAROV, V.V. [deceased]; AYZENSHTAT, I.I., red.; ZHIRNOV,
N.I., red.; LARIONOV, G.Ye., tekhn.red.

[Modern boiler units; essential components and devices]
Sovremennyye kotel'nye agregaty; osnovnye elementy i ustroystva.
Pod red. I.E.Braude. Moskva, Gos.energ.izd-vo, 1959. 247 p.
(Boilers) (MIRA 12:8)

ZAKHAROV, A.A., kand.tekhn.nauk; MOCHAN, S.I., kand.tekhn.nauk; SHCHERBAKOV,
V.A., kand.tekhn.nauk; BRAUDE, I.Ye., inzh.; IVYANSKIY, S.I., inzh.;
MODEL', Z.G., inzh.

Reliability of steam superheaters. Elek.sta. 30 no.1:91-94 Ja '59.
(Superheaters) (MIRA 12:3)

LEVIN, Izrail' Moiseyevich; BOTKACHIK, Iosif Azar'yevich; RODDATIS, K.F., kand. tekhn. nauk; IVYANSKIY, S.I., kand. tekhn. nauk; BRAUDE, I.Ye., inzh.; GOTGEL'F, I.M., kand. tekhn. nauk, retsenzent; POSTOLOVSKIY, S.N., inzh., retsenzent; KOMAROV, A.M., inzh.; LARIONOV, G.Ye., tekhn. red.

[Flue exhaust and ventilating fans for high capacity electric power plants] Dymosy i ventilatory moshchnykh elektrostantsii. Moskva, Gos. energ. izd-vo, 1962. 183 p. (MIRA 15:4)
(Electric power plants--Ventilation)

Printing Industry - Accounting

"Analysis of economic operation of enterprises in the Central Administration for Printed Matter (Soyuzpechat'), " A. N. Dubinin, Reviewed by Kh. Braude, Bukhg. uchet, 11, No. 4, 1952.

Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

BRAUDE, L., inzh.

Using fine sands in the manufacture of precast concrete. Sel'
stoi. 15 no.1:15-16 Ja '60. (MIRA 15:7)
(Precast concrete)

10

Chemical constitution and parasitocidal activity. IV. Synthesis of plasmochin and of tetrahydroplasmochin. K. S. Topchiev and M. B. Braude. *Compt. rend. acad. sci. U.R.S.S.* 52, 583-5 (1946) (in English).—1-Diethylamino-4-pentanone-HCl with HCl(ORt), gave the acetal (I), b. 100°, n_D^{20} 1.4346. The product of the reaction between I and 6-methoxy-8-amino-1,2,3,4-tetrahydroquinoline was hydrogenated in the presence of Pt or Pd to tetrahydroplasmochin, b. 183-01° [salt with methylenedis-(2-hydroxynaphthoic acid), m. 152°], which is active against avian malaria. I with 6-methoxy-8-aminoquinoline gave 1-diethylamino-4-(6-methoxy-8-quinolylinino)-pentane, b. 183-5°, n_D^{20} 1.5770, which was hydrogenated in the presence of Ni to plasmochin, b. 190-2° (dipicrate m. 132°, d. 1.0202).

R. H. Kaplan

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
COMMON ELEMENTS																										COMMON VARIANTS																									
CA																										10																									
1,2,3,4 - Tetrahydro - 6 - methoxy - 8 - (4 - diethyl- amino-1-methylbutylamino)quinoline. K. S. Topchiev and M. B. Braude. U.S.S.R. 67,946, Feb. 28, 1947. 6 - Methoxy - 8 - (4 - diethylamino - 1 - methylbutylidene- amino)quinoline is reduced with metallic Na in alc. The resulting tetrahydroplasmochin is sepd. in the usual manner. M. Hosen																																																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																																																			
SOURCE #1													SOURCE #2													SOURCE #3																									
SOURCE #4													SOURCE #5													SOURCE #6																									

CA

10

6 - Methoxy - 8 - (4 - diethylamino - 1 - methylbutyl- amino)quinoline. K. S. Topchier and M. R. Braude. U.S.S.R. 67,947, Feb. 28, 1947. 1-Diethylamino-4-pentanone acetal is condensed with 6-methoxy-8-amino-quinoline and the product hydrogenated with the aid of a Ni catalyst. M. Itosh

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

M. B. BRAUDE

PA 194T40

USSR/Chemistry - Antimalarials
Guanidine Derivatives Oct 51

"Chemical Structure and Parasitocidal Activity,
XI. Derivatives of Dipiperidylguanidine," M. B.
Braude, K. S. Topchiyev, Chem Dept, Inst of
Malaria and Med Parasitol, Moscow

"Zhur Obshch Khim" Vol XXI, No 10, pp 1909-1914

On basis of 15-yr-old synthesis by Topchiyev of
certain dipiperidylguanidines having strong local-
anesthetic action, synthesized 5 new dialkylamino
alkyl-substituted sym dipiperidylguanidines, of
which 2 had Cl-substituted piperidine ring. Three

194T40

USSR/Chemistry - Antimalarials (Contd) Oct 51

of these derivs were stated to be inactive against
bird malaria. Method was interaction of sym di-
piperidylthioureas with aliphatic amines in
presence of desulfurizing agent.

194T40

BRAUDE, M. B. Cand Chem Sci -- (diss) "Research in the field of
anti-malarial compounds ^{of} ~~derived from the~~ 8-aminoquinoline ~~derivatives.~~"
Mos, 1956. 13 pp 22 cm. (Min of Health USSR. All-Union Sci Res
Chem-Pharm Inst im S. Ordzhonikidze "VNIKIPI" ^h
110 copies. (KL, 22-57, 104).--

-2-

CHLORIDE 1/11 B

✓ Chemical structure and parasitocidal activity. XIX.
 Synthesis of 6-methoxy-8-(4-aminophenyl)aminoquinoline.
 M. B. Braude and V. I. Stavrovskaya (Inst. Malaria, Med.
 Parasitol., Helminthol., Moscow). *Zhur. Obshchei Khim.*
 26, 373-374 (1952); cf. C.A. 50, 3447c. — Reductive amination
 of 400 g. acetoacetyl alc. with 180-200 g. NH₃ under 2 atm.
 H₂ over Ni in 200 ml. H₂O gave 74.7% 2-amino-5-pentanol,
 b_p 60°, m. 32°. This with 48% HBr 5 hrs. at 125° gave
 99% 2-amino-5-bromopentanol HBr salt, m. 96-7° (from
 Me₂CO-Et₂O). This (371 g.) and 201 g. 6-methoxy-8-
 aminoquinoline heated with 200 ml. H₂O 2 hrs. at 104°
 dild. with 780 g. hot H₂O, acidified with HCl, cooled and
 filtered, the filtrate treated with NaOAc, extd. with Et₂O
 and the aq. layer treated with excess 20% NaOH gave
 31.9% 6-methoxy-8-(4-aminophenyl)aminoquinoline, b_p 163-
 8°, m. 46°; di-HCl salt, m. 227-7.5°. If the bromo deriv.
 is added in portions, the yield rises to 45% or 62.9%. A
 7% yield results from heating the components with gradual
 addn. of the aminoquinoline. If the HBr salt of the amino-
 quinoline is used, the yield drops to 2.7%. The product
 shows high antimalarial activity. G. M. Kosolapoff

Chemical structure and parasitocidal activity. XIX.
Synthesis of 6-methoxy-8-(4-aminopentyl)aminoquinoline.
M. B. Braude and V. I. Stavrovskaya. *J. Gen. Chem.* —
U.S.S.R. 26, 999-1002 (1956) (English translation). — See
C.A.B. 50, 14760f. B. M. R.

BRAUDE, M.B.; STAVROVSKAYA, V.I.

New variation of the synthesis of quinocide, 6-methoxy-8-(4¹-amino-pentyl)-aminoquinoline. Med.prom. 11 no.7:19-23 J1 '57. (MLRA 10:8)

1. Institut malarii, meditsinskoy parazitologii i gel'mintologii
Ministerstva zdravookhraneniya SSSR
(QUINOLINE)

AUTHOR: Braude, M. B.

79-28-5-43/69

TITLE: On the Mechanism of the Reduction Reaction of Nitril of the γ -acetobutyric Acid (O mekhanizme reaktsii vosstanovleniya nitrila γ -atsetomaslyanov kisloty)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 5, pp. 1310-1312 (USSR)

ABSTRACT: In the reduction of the nitrile of γ -acetobutyric acid (formula I) with sodium in butylalcohol (ref 1) two products are formed, the 6-aminohexanol-2 (II, 17%) and the 2-methylpiperidine (III, 15 %). Gurvich (ref 2) assumed that the reduction takes place according to scheme 1. In order to increase the yield of the 6-aminohexanol-2, which is important for the authors, they carried out stepwise the hydration of the above-mentioned nitrile. In the beginning the carbonyl-group according to Meerwein - Ponderf (Meerveyn - Ponderf) (ref 3) was reduced and finally the nitrile of the δ -oxycapronic acid (IV, 84 %) was obtained (see reaction process). This nitrile was reduced with sodium in isoamylalcohol to the 6-aminohexanol-2 (47.7 %), in which case the formation of 2-methylpiperidine did not occur. The data of

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On the Mechanism of the Reduction Reaction of Nitril
of the γ -Acetobutyric Acid

79-28-5-43/69

the authors do not correspond to the above mentioned scheme by Gurvich, they assume that in the reduction of the nitrile of the γ -acetobutyric acid with sodium alcoholate 6-amino-hexanon-2 (V) occurs as intermediate product, i.e. that the process takes place according to scheme 2. In order to support this assumption a "selective reduction" of the CN-group of the nitrile of γ -acetobutyric acid was carried out in acetic anhydride with the skeleton nickel catalyst. The 6-methyl-1,2,3,4,-tetrahydropyridine (VI, 32 %) obtained was reduced with sodiumisoamylalcoholate to the 2-methyl-piperidine (VII, 74,5 %). For the purpose of identification the 6-methyl-1,2,3,4-tetrahydropyridine was synthesized according to Gabriel (Gabriyel) (ref 4) which in the reduction on the same conditions also yielded 2-methyl-piperidine. Gurvich believes the suggested scheme to be wrong and maintains that the tetrahydropyridines are not reduced by sodium alcoholate (ref 2). The latter refers, however, only to Δ^3 -tetrahydropyridine (ref 5) while the Δ^2 -tetrahydropyridines in the reduction easily convert to piperidines

Card 2/3

On the Mechanism of the Reduction Reaction of Nitril
of the γ -Acetobutyric Acid

79-28-5-43/69

(ref 6). Thus the reduction of the nitrile of γ -acetobutyric acid temporarily takes place through the 6-aminoheptanon-2, which, besides its conversion to 6-methyl-1,2,3,4-tetrahydropyridine, simultaneously is reduced to the 6-aminoheptanol-2 as is shown clearly by scheme 2. There are 7 references, 3 of which are Soviet.

ASSOCIATION: Institut mel'nykh, meditsinskoy parazitologii i entomologii
(Institut of malaria, Medical Parasitology and Entomology)
SUBMITTED: April 19, 1957

Card 3/3

1 11984-66

ACC NR: AP60000768

SOURCE CODE: UR/0243/65/000/009/0025/0027

AUTHOR: Bekhl^{SS}i, A. F. Braude^{SS}, M. B.; Vorob'yeva^{SS}, Z. G.; Shvedova^{SS}, V. I.

ORG: Institute of Medical Parasitology and Tropical Medicine of the Ministry of Health SSSR, Moscow (Institut meditsinskoy parazitologii i tropicheskoy meditsiny Ministerstva zdoravookhreneniya SSSR)

TITLE: Phenasal synthesis

SOURCE: Meditsinskaya promyshlennost' SSSR, no. 9, 1965, 25-27

TOPIC TAGS: organic synthetic process, drug, chlorinated aromatic compound, anthelmintic

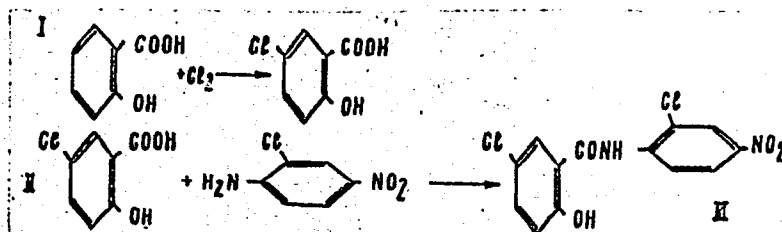
ABSTRACT: This ^{SS}anthelmintic, a halogenated salicylarylamide, was synthesized according to the schematic representation which yielded the N-(2'-chloro-4'-nitrophenyl)-amide of 5-chlorosalicylic acid. (See Figure.)

Card 1/2

UDC: 615.778.475-012

L 11984-66

ACC NR: AP60000768



At stage I, chlorination in chlorobenzene was found to yield 76-87% of I upon careful control of chlorine introduction to avoid a reduction in yield through formation of byproducts. In stage II, the low basicity of the 2-chloro-4-nitroaniline and the breakdown of its hydrochloric salt during heating obviated the need for an excess to bind the liberated HCl. Phenasal was obtained as a light gray powder, m.p. 226-229 C, yield 67-70%. High dispersability was required for full effect (in 77.4% of the cases). Combination with other anthelmintics increases its effect. Orig. art. has: 3 formulas.

SUB CODE: 06, 07/ SUBM DATE: 29Apr65/ ORIG REF: 010/ OTH REF: 008

HW
Card 2/2

BAYANDINA, D.G.; BEKHLI, A.F.; BRAUDE, M.B.; KROTOV, A.I.; FEDOROVA, S.N.

Experimental study of the new anthelmintic ionezan and its combination with acrichine. Report No.1: Experimental study of ionezan. Med. paraz. i paraz. bol. 31 no.6:673-677 M-D '62.
(MIRA 17:11)

1. Iz otdela gel'mintologii (zav. - prof. V.P. Pod'yapol'skaya) i otdela sinteticheskikh preparatov (zav. - prof. V.I. Stavrovskaya) Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Martsinovskogo (dir. - prof. P.G. Sergiyev) Ministerstva zdravookhraneniya SSSR.

BRAUDE, M.M.

PLETNEYVA, G.G.; BRAUDE, M.M.

Joint session of the pediatric section of the Moscow Society of
Phthisiologists and the tuberculosis section of the Moscow Society
of Pediatricians, held to commemorate the memory of A.A.Kisel'
and the 70th anniversary of the Pediatric Tuberculosis Hospital.
Probl.tub. 35 no.8:121 '57. (MIRA 11:4)
(MOSCOW--TUBERCULOSIS--HOSPITALS AND SANATORIUMS)

KUDRYAVTSEV, P.S., prof., otv. red.; FIGUROVSKIY, N.A., prof.,
red.; IVANENKO, D.D., prof., red.; SPASSKIY, B.I., dots.,
red.; YAKOVLEV, V.A., dots., red.; MINCHENKO, L.S., kand.
fiz.-mat. nauk, red.; BRAUDE, M.V., kand. filos. nauk, red.;
LEZHNEVA, O.A., kand. fiz.-mat. nauk, nauchn. red.

[Problems on the history of physics and its teaching; reports
and materials] Voprosy istorii fiziki i ee prepodavaniia; do-
klady i materialy. Tambov. Tambovskii pedagog. in-t. 1961.
225 p. (MIRA 17:4)

1. Mezhvuzovskaya konferentsiya po istorii fiziki. Ist. Tambov.

BRAUDE, M.Z.
BRAUDE, M.Z.

Feliks Dzerzhinskii plant. Stek.i kar. 14 no.10:15-16 0 '57.
(MIRA 10:12)

1. Direktor Gusevskogo stekol'nogo zavoda im. Dzerzhinskogo.
(Gus-Khrustalny--Glass manufacture)

BRAUDE, M.Z., inzh.

Local suction from fixed electric welding positions. Svar. proizv.
no.8:38-39 Ag '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut okhrany truda
Vsesoyuznogo tsentral'nogo soveta professional'nykh soyuzov.
(Welding--Hygienic aspects)

BRAUDE, M.Z., inzh.

Method of determining the total content of gas in the air
turbulent flows. Vod. i san. tekhn. no.11:30-31 N '65.

(MIRA 18:12)

POKROVSKAYA, M.P.; MAKARENKO, I.G.; KRASKINA, N.A.; BRAUDE, N.I.;
PRYADKINA, M.D.; GUTOLOVA, N.M.

Significance of cytochemical investigations in the study of
immunological problems. Zhur.mikrobiol.epid. i imun. 30 no.1:
5-11 Ja '58. (MIRA 12:3)

1. Iz Gosudarstvennogo kontrol'nogo instituta meditsinskikh biolo-
gicheskikh preparatov imeni Tarasevicha.
(IMMUNITY,
cytochem. aspects (Rus))

BRAUDE, N.I., KRASKINA, N.A.

~~PERSONNEL INFORMATION~~ Variations of intracellular carbohydrate metabolism in a focus of
inflammation in man. Biul.MOIP. Otd.biol. 62 no.2:170-171 Mr.-Ap '58
(MIRA 11:7)

(SKIN--INFLAMMATION)

(CARBOHYDRATE METABOLISM)

(PLAGUE--PREVENTIVE INOCULATION)

BRADY, A. A., PROKHOROVA, M. P., GURKOVA, L. M., KASHINA, L. A., KAZAKOVA, I. A.

"Cytochemical methods of study of the mechanism of active immunity."

report submitted at the 13th All-Union Congress of Mycologists, Bacteriologists
and Infectiologists, 1960.

BRAUDE, N.I.

Possibility of utilization of cortisone for studying vaccinal strains of Brucella. Zhur.mikrobiol.epid.i immun. 31 no.2: 83-88 F '60. (MIRA 13:6)

1. Iz Gosudarstvennogo kontrol'nogo instituta meditsinskikh biologicheskikh preparatov imeni Tarasevicha.
(BRUCELLA immunol.)
(CORTISONE pharmacol.)

BRAUDE, N. I.

"Experimental Model for Studies of Vaccine Strains of
Brucella."

Veterinariya, Vol. 38, No. 6, 1961. p. 83

Braude, N. I. (Junior Scientific Co-worker. Moscow Scientific
Research Institute of Microbiology, Epidemiology, and
Hygiene.)

BRAUDE, N.I., mladshiy nauchnyy sotrudnik

Experimental model for studying the vaccinal strains of Brucella.
Veterinariia 38 no.6:83-84 Je '61. (MIRA 16:6)

1. Moskovskiy nauchno-issledovatel'skiy institut mikrobiologii,
epidemiologii i gigiyeny.
(Brucella) (Cortisone) (Vaccines)

BRUDE, A.I.; BRAUDE, N.I.; ZAVENYAGINA, Ye.A.

Activity of acid phosphatase of macrophages as related to
special features of their functional state. Dokl.AN SSSR 145
no.3:677-680 J1 '62. (MIRA 15:7)

1. Tsentral'nyy institut usovershenstvovaniya vrachey i
Moskovskiy institut epidemiologii i mikrobiologii. Predstavleno
akademikom N.N.Anichkovym.
(PHOSPHATASE) (MACROPHAGES)

FIKHMAN, B.A.; BRAUDE, N.I.

Numerical turbidity equivalent for suspensions of brucellosis
bacteria. Zhur. mikrobiol., epid. i immun. 40 no.1:120-123'63.
(MIRA 16:10)

1. Iz: Gosudarstvennogo kontrol'nogo instituta imeni Tarase-
vicha i Moskovskogo instituta epidemiologii i mikrobiologii.

*

L 17970-65 EWT(1)/EWA(b) Pa-4 AMD/APGC(c) JK

ACCESSION NR: AP5002641

S/0016/64/000/010/0071/0076

AUTHOR: Braude, N. I.

TITLE: The role of opsonizing factors in phagocytosis of brucella with macrophages

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 10, 1964, 71-76

TOPIC TAGS: immunology, serum, brucellosis, cytology

Abstract: Phagocytosis of Brucella with macrophages from the abdominal cavity of immune and normal mice was studied in the presence of normal and immune sera. Vaccination of mice with live Brucella vaccine increased the absolute concentration of cells in abdominal cavity fluid; its macrophage count also rose, and marked hyperplasia of the nucleus and cytoplasm was observed. In vitro study of macrophage-Brucella phagocytosis indicated that humoral factors play an important role in the first phase of phagocytosis (engulfment of microbes); this is equally true for macrophages of immune and normal animals. The second phase of phagocytosis (complete cellular ingestion of Brucella), however, appears to take place primarily as a result of macrophage metabolism, which is considerably altered by immunogenesis.

Card 1/2

L 17970-65

ACCESSION NR: AP5002641

The results of this study indicate that effective Brucella phagocytosis in the immune organism is assured by the entire immune macrophage-immune sera system, formed during immunogenesis. Orig. art. has 2 tables and 1 graph.

ASSOCIATION: Moskovskiy institut epidemiologii i mikrobiologii MZ RSFSR (Moscow
Institute of Epidemiology and Microbiology, MZ, RSFSR)

SUBMITTED: 19Aug63

ENCL: 00

SUB CODE: LS

NO REF SOV: 006

OTHER: 007

JPRS

Card 2/2

BRAUDE, N.I.; CHERNOKHVESTOVA, Ye.V.

Mechanism of the effect of cortisone on the resistance in animals
to infection. Zhur. mikrobiol., epid. i imm. 41 no. 2:143-144
F '64. (MIRA 17:9)

1. Moskovskiy institut epidemiologii i mikrobiologii.

POKROVSKAYA, M.P.; KASKINA, N.A.; LEVENSON, V.I.; GUTOROVA, N.M.; BRAUDE, N.I.

Morphology and nomenclature of immunologically competent cells of
lymphoid tissue. Zhurn.mikrobiol., epid. i immun. 42 no.3:8-13
Mr '65. (MIRA 18:6)

1. Moskovskiy institut epidemiologii i mikrobiologii.

GOL'DMAN, I.L.; LEVINA, L.Ya.; BRAUDE, N.I.

Leucocyte culture in the peripheral human blood. Arkh. anat.,
gist. i embr. 49 no.9:81-94 S '65.

(MIRA 18:12)

1. Laboratoriya radiatsionnoy genetiki (zav. - chlen
korrespondent AN SSSR prof. N.P. Dubinin) Instituta biofiziki
AN SSSR. Submitted June 16, 1964.

ACC NR: AP6034241

(N)

SOURCE CODE: UR/0120/66/000/005/0211/0214

AUTHOR: Koval', A. G.; Braude, P. A.; Gutman, B. V.

ORG: Khar'kov State University (Khar'kovskiy gosudarstvennyy universitet)

TITLE: Application of ion beams for the micromachining of thin metal film on a dielectric

SOURCE: Pribery i tekhnika eksperimenta, no. 5, 1966, 211-214

TOPIC TAGS: ion beam, ion beam focusing, thin film

ABSTRACT: Equipment for generating thin ion beams was designed, constructed, and tested on thin metal films deposited on insulating substrates. This process is specifically intended for the manufacture of microcircuits. Electron beam machining has the severe disadvantage of removing material due to heat generation, which results in modification of thin film properties, especially in multilayer devices of the type used in microcircuits. The ion beam removes material due to cathodic sputtering, without any substantial generation of heat. The application of ion beam machining techniques so far has been hindered by the difficulty of generating thin collimated beams about 0.05 mm in diameter. Figure 1 shows the new ion-beam generator designed to produce such beams. The final beam collimation is accomplished using two diaphragms which have ap-

UDC: 621.3.032.26:621.791.94

Card 1/3

ACC NR: AP6034241

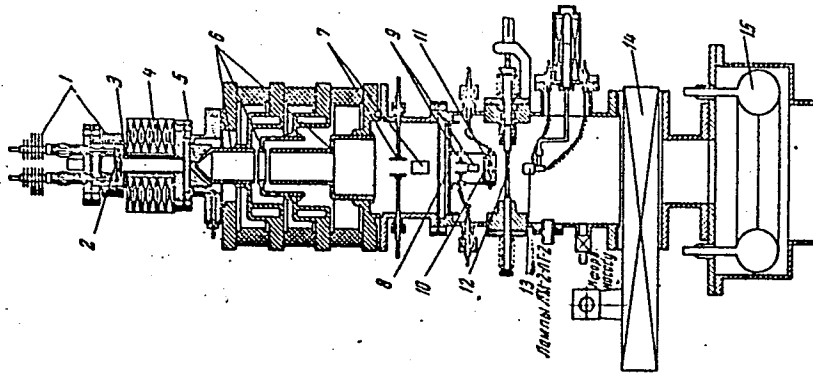


Fig. 1. 1--anode; 2--heated cathode; 3--radiators; 4--magnetic coil; 5--cold cathode with the emission aperture; 6--electrodes of the three-electrode lens; 7--first corrector; 8--first collimating diaphragm; 9--second corrector; 10--second collimating diaphragm; 11--plane condenser which steers the collimated beam; 12--movable sample stage; 13--Faraday cylinder; 14--vacuum valve; 15--nitrogen trap.

Card 2/3

ACC NR: AP6034241

pertures smaller than 0.1 mm, pierced with a ruby laser beam. The experiments involved beam current densities of 1 to 25 mA/cm². Hydrogen, neon, argon, and nitrogen were used as gas sources of ions. The cathode is in the form of a magnetic arc. The same cathode was used with all gases. Experiments included material removal from Au, Cu, Al, Cr, Ta, and Ag films on dielectric substrates. It was shown that close control of these operations was possible with satisfactory results. The authors thank Ya. M. Fogel for his constant interest in this work and useful discussion. Gratitude to V. S. Ravin for a series of useful discussions is also expressed. Orig. art. has: 3 figures.

SUB CODE: ~~11~~ 20/

SUBM DATE: 020ct65/

ORIG REF: 004/

OTH REF: 002

Card 3/3

BRAUDE, R.S.

37680 mestnoe lecheniye kozhnykh bolezney penitsillinovoy
 maz'yu. vestnik venerologii i dermatologii,
 1949, No. 6, s. 37-40

So. Letopis' Zhurnal'nykh Statey, Vol. 47, 1949

BRAUDE, R. S.

BRAUDE, R. S., AGZIBEGOVA, V. A.

Ozocerite treatment of skin diseases. Vest. vener. No. 4, July-Aug. 50. p. 43-5

1. Of the Department for Skin-Venereal Diseases, Central Institute for the Advanced Training of Physicians (Director--V. P. Lebedev; Head of Department--Prof. Rozentul) and of the Clinical Hospital imeni Korolenko (Head Physician--Docent V. P. Volkov).

GLML 19, 5, Nov., 1950

BRAUDE, R.S.

Priority of Russian dermatologists in describing mucous papillomas.
Vest.vener. No.1:47-48 Jan-Feb 51. (GIML 20:6)

1. Of the Department of Skin and Venereal Diseases (Head--Prof.M.A.
Rozentul) of the Central Institute for the Advanced Training of
Physicians (Director--V.P.Lebedeva).

BRAUDE, R. S., TSIVILEVA, E. S., VASILYEVNA, N. M.

Urticaria

Tumorous type of urticaria pigmentosa. Vest. ven. I derm. No. 3 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.
2

1ST AND 2ND GROUPS																										3RD AND 4TH GROUPS																									
COMMON ELEMENTS													INTERNAL INDEX													COMMON ELEMENTS													INTERNAL INDEX												
DR. H. G. S. G. Q A 11A PROCESSES AND PROPERTIES INDEX The influence of physiotherapeutic agents in restoring the activity of the injured heart. 1. Restoration of the activity of the injured heart under the influence of ultraviolet and infrared radiations. S. G. Braude. <i>Bull. biol. med. appl. U. R. S. S.</i> 4, 37-8 (1937); <i>Chem. Zentr.</i> 1939, I, 994.—A heart (<i>Rana temporaria</i>) which had been caused to stop beating by treatment with arecoline began beating again under the influence of ultraviolet radiation. Infrared radiation did not have this effect but rather accelerated the action of the arecoline. When strophanthus was the poison used, the effects of the 2 types of radiation were reversed, ultraviolet light accelerating the action of the poison and infrared light inhibiting it. M. G. M. ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION																																																			
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BRAUDE, S.G.

42645. Vosstanovleniye Deystiviya Otravlenogo Serotse Fizicheskimi Faktorami. Trudy
Uzbek, Gos. Nauch.--Issled. In-ta Fizioterapii i Kurortologii Im. Semashko, Sb.
10, 1948, S . 80-94-

BRAUDE, S. G.

The effect of Anesthesia and Certain Therapeutic Substances on the Absorption of Isotonic Solutions from the Intestinal Zone

Sb. Nauch. Tr. Krasnoyar. Med. In-ta, No 3, 1953, pp 22-23

In experiments with rats, guinea pigs, and rabbits, the author found that in animals anesthetized with "Kloett" fluid and cyclonal the absorption was still low. The changes in water and chloride absorption was similar in a variety of animals. (RZhBiol, No 2, 1955)

SO: Sum. No. 639, 2 Sep 55

BRAUDE, S. G.

Effect of Anesthesia on Absorption of Hypertonic Solutions From the Intestinal Zone

Sb. Nauch. Tr. Krasnoyar. Med. In-ta, No 3, 1953, pp 23-24

The author investigated the effect of injection of a 5% salt solution in 1 ml/10g weight doses into the intestinal zone of white rats which had been anesthetized with cyclonal. After one hour the animals were examined and it was established that the amount of liquid in the intestinal area of the anesthetized animals had increased to a greater extent than in the non-anesthetized control animals. The amounts of chlorides themselves decreased more in the latter than in the anesthetized animals in whom the amount of the protein nitrogen was also smaller. The conclusion was that the diffusive osmotic processes of the organism depend on the conditions of the central nervous systems. (RZhBiol, No 2 1955)

SO: Sum. No. 639, 2 Sep 55

BRAUDE, S. I.

Production of ion currents in high vacuum with the aid
of a magnetic field. A. A. Slutskii, S. I. Braude and
I. M. Virdorchik. *Physik. Z. Sowjetunion* 6, 208 79
(1934).---A special tube is described for the production
of currents at 10^{-6} to 10^{-8} mm. Hg. Accelerating po-
tentials of 3000-4000 v. produced ion currents of the
order of 125 microamp. at the lowest pressure.
A. B. F. Duncan

1ST AND 2ND GROUPS		PROCESSING AND PROPERTY INDEX	
28		2	
Motion of an electron in an electric and a magnetic field with allowance for the space charge. S. Ya. Braude. <i>J. Exptl. Theoret. Phys.</i> (U. S. S. R.) 5, 621-6 (1935). A plane condenser system was used and the trajectory, potential distribution and charge d, were detd. The electron d is a max. at $e/mHt = 2h$ and a min. at $e/mHt = (2h + 1)\pi$, where h takes on values of 0, 1, 2, ... t time, e, m and H are elec. charge, mass and magnetic field, resp.		F. H. Rathmann	
ASB-55A METALLURGICAL LITERATURE CLASSIFICATION		E2	
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RECORD NUMBER		RECORD NUMBER	

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
SA B66F 2497. Motion of Electrons in Electric and Magnetic Fields and Action of Space Charge. S. J. Branda. Phys. Zeits. d. Sowjetunion, 7, 5-6, pp. 565-571, 1935. In English.—The classical theory of the action of valves involves a knowledge of the potential distribution round the collector and the influence of space charges on this distribution. In the case of magnetrons the paths of the electrons are curved and potential distributions are more difficult to find. The present investigation concerns valves of special shape consisting of two infinite planes, one emitting electrons and the other serving as anode. The necessary equations are set up and a method of solution is given. It is shown that the space charge near the cathode is increased by a magnetic field. G. E. H.																			
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1977. "Cut-Off" in the Pinco Magnetron with Space Charge.
S. J. Brande. *Phys. Zeit. d. Sowjetunion*, **8**, p. 604-606, 1965. /n English.—The author replies to Tonks' paper [see preceding Abstract] and argues that as Tonks' conclusion agrees with the experimental results of other investigations on analogous questions (cylindrical magnetrons) it may be considered that the real (physical) solution of the present case is given by Tonks, though his own solution from the mathematical point of view is also correct.

J. J. S.

1ST AND 2ND ORDER										3RD AND 4TH ORDER									
PROCESSES AND PROPERTIES INDEX																			
1886. Motion of Electrons in Electric and Magnetic Fields Taking into Consideration the Action of the Space Charge. S. J. Braude. <i>Phys. Zeits. d. Sowjetunion</i>, 8, 6, pp. 667-674, 1936. In English.—In a previous paper [see Abstract 4412 (1935)] the authors examined the problem of the motion of electrons in crossed electric and magnetic fields, for the plane condenser. The present paper concerns the same problem for a cylindrical condenser. An equation is developed which can be solved approximately to give (a) the potential distribution, (b) the paths of the moving electrons and (c) the distribution of the space-charge density in the condenser. The method of solution is given. Finally the results are compared with experimental values for various magnetrons given by Slutzkin and Steinberg [see Abstract 2573 (1929)] and satisfactory agreement is found. G. R. B.																			
ASB-55A METALLURGICAL LITERATURE CLASSIFICATION																			

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61

Motion of electrons in crossed electric and magnetic fields with space charge. S. J. HAVUK
(Physical. Z. Sovietunion, 1934, 10, 429-430;
cf. A., 1935, 1294).—A reply to Belkhatin (preceding
abstract). U. D. S.

ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION

SECTION 1										SECTION 2										SECTION 3										SECTION 4									
SUBSECTION 1										SUBSECTION 2										SUBSECTION 3										SUBSECTION 4									

SA B 66

2993. Wave-Length of Plane Magnetron Oscillations. S. J. Brande. *Phys. Zeits. d. Sowjetunion*, 12, 1, pp. 1-6, 1937. In English.—
The relation between the transit time and the anode voltage and total current density for a plane magnetron is derived. AUTHOR.

ASAC SEA METALLURGICAL LITERATURE CLASSIFICATION

W.C.

Value & Resonance

621 0005117 810
On the Effect of an External Electromagnetic
Field on a Split Anode Magnetron. S. Ya. Brande.
Izv. Akk. Nauk, 1944, Vol. 14, Nos. 7/8, pp. 141-149.
In Russian. A magnetron with a static character-
istic represented approximately by a polynomial
of the 5th degree is considered. Formulas are
derived determining the oscillations for various
conditions and also the amplification factors for
weak and strong signals.

1948

BRAUDE, S. Ya.

"On the Question of Action of the Magnetic Field on the Space Charge in Plane and Cylindrical Diodes. II," Zhur. Tekh. Fiz., 15, No.3, 1945

Ukr. Physico-Tech. Inst.

BRAUDE, S. YA.

PA 20T56

USSR/Radio

Oct/Nov 1946

Wave Guides
Standing Waves

"Influence of Slit Screens in a Cylindrical Wave Guide on the Standing Wave Ratio," Prof S. Ya. Braude, Candidate of Mechanical Sciences, M. I. Fishkin, Engr, 8 pp

"Radiotekhnika" Vol I, No 7/8

Discussion of the possibility of decreasing the standing wave ratio of waves in cylindrical wave guides by means of screens with apertures. Measurements carried out with five types of screens show that a screen with a rectangular aperture, when properly disposed, enables traveling waves to rise in wave guides.

20T56

BRAUDE, S. Ya.

PA 20T66

USSR/Radio Waves - UHF

Dec 1946

Vacuum Tubes - Magnetrons

"High Power Generation of Decimeter Waves by Continuous Operation Magnetrons," A. A. Slutskin, Corresponding Member of the Academy of Sciences USSR, Prof S. Ya. Braude, Dr of Mechanical Sciences, I. D. Truten', Candidate of Physico-mathematical Sciences, 6 pp

"Radiotekhnika" Vol I, No 9

Computation of a magnetron oscillator for generation of high-power oscillations in the decimeter wave range. Oscillation power exceeding 10 KW under continuous operation is shown to be feasible. An all-metal magnetron of 17 KW for 80-cm waves has been designed and manufactured. A model is proposed for an all-metal tunable magnetron oscillator permitting the wave length to be varied within a 30% range.

PA 20T66

157 AND 158 INDEX										PROCESSED AND PROPERTIES INDEX										159 AND 160 INDEX																																																																																																			
BA 621.385.16.029 : 621.396.61 5.141.2 : 537.535.8 - 82 Secondary emission in magnetron generators. Braude, S. J., and Ostrovsky, I. E. Bull. Acad. Sci. USSR, Ser. Phys., 10 (No. 1) 68-74 (1946) In Russian. - 50 c/s square waves up to 1500 V in amplitude are applied to a grid magnetron, normally biased off, causing oscillations on 60-80mc. Its secondary emission is studied by means of an oscillograph, synchronized with the pulsed input. It is found that the secondary emission is not connected with any ionization process and in the absence of oscillations cannot exceed ϕ (given by secondary emission coefficient of the metal used for the grid), but does considerably exceed ϕ when the magnetron is excited into oscillation. A. I.																																																																																																																							
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PROCESSES AND PROPERTIES INDEX																										PROCESSES AND PROPERTIES INDEX																									
Propagation of electromagnetic ultra-short waves in the zone of direct visibility. <i>BEALIN, S. I., AND OUDINOV, I. E. Dokl. Akad. Sci. USSR, Ser. Phys.</i> 10, (No. 2) 223-34 (1966) <i>In Russian</i>.—The field vector of the vertical dipole at low elevation of communicating points is calculated. The influence of the frequency on the permittivity and of conductivity, particularly in the case of propagation above sea water, is treated analytically. Curves plotting attenuation coefficients and field strengths at the dipoles r, λ and r, elevation for the wave range from $\lambda = 1$ cm to $\lambda = 9$ m are given. A. I.																																																			
AND 15.4. DETAIL OF LITERATURE CLASSIFICATION																																																			

DECODE: SYA.
BASS, F.G.; BRAUDE, S.Ya.

On the reflection of radar signals from the sun. Ukr. fiz. zhur. 2 no.2:
149-164 Ap-Je '57. (MIRA 10:6)

1. Institut radiofiziki ta elektroniki Akademii nauk URSS.
(Radar in astronomy)

Brude, S.M.
BRAUDE, S.Ya.; MEN', A.V.; LEBEDEVA, O.M.

Experimental study of tuning-fork filters and some aspects of
their theory [in Ukrainian with summaries in Russian and English].
Ukr.fiz.zhur. 2 no.3:274-291 J1-S '57. (MIRA 10:10)

1. Institut radiofiziki ta elektroniki AN URSR.
(Electric filters)

BRAUDE, S.Ya.

Distribution of scattering elements during the propagation of radio waves over a ruffled sea. Izv.vys.ucheb.zav.; radiofiz. 1 no.3:25-29 '58. (MIRA 12:1)

1. Khar'kovskiy institut radiofiziki i elektroniki AN USSR.
(Radio waves)

BRAUDE, S.Ya.; BASS, F.G.

Possibility for determining the distribution function of scatterers
on a ruffled sea by radar. Izv.vys.ucheb.zav.; radiofiz. 1 no.3:
161-162 ' 58. (MIRA 12:1)

1. Institut radiofiziki i elektroniki AN USSR.
(Radio waves)

BRAUDE, S. Ya.

109-3-2-2/26

AUTHORS: Braude, S.Ya., Komarov, N.N. and Ostrovskiy, I.Ye.

TITLE: On the Statistic Nature of the Scattering of Centimetre Radio Waves by a Rough Sea Surface (O statisticheskoy kharaktere rasseyaniya santimetrovykh radiovoln vzvolnovannoy poverkhnost'yu morya)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol.III, No.2, pp. 172 - 179 (USSR).

ABSTRACT: The problem can be analysed ^{either} by solving the Maxwell equations for a statistically non-uniform medium (Refs. 3, 4 and 5) or by assuming that the received signal is statistical (Refs. 6 and 7). The second approach is easier and it is adopted in this work. For the purpose of analysis, it is assumed that the propagation path is comparatively short so that the main cause of the amplitude fluctuation of the received signal is the scattering of the waves from the rough surface. The field intensity at the receiver is due to the super-position of a "direct" wave which propagates directly from the transmitter to the receiver, a reflected wave and a number of waves scattered by the sea. The field is expressed by:

$$E(t) = E_0 \cos \omega_0 t + E_{0Tp} \cos(\omega_0 t + \varphi) + \sum E_s \cos(\omega_s t + \varphi_s) \quad (1)$$

Card1/5

109-3-2-2/26

On the Statistic Nature of the Scattering of Centimetre Radio Waves
by a Rough Sea Surface

where $E_o \cos \omega_o t$ is the direct wave, $E_o T_p \cos(\omega_o t + \varphi)$ is the reflected wave and $\sum E_s \cos(\omega_s t + \varphi_s)$ is the sum of the scattered waves; these waves have random amplitudes E_s and phases $\omega_s t + \varphi_s$ which are distributed over an interval 0 to 2π . It is assumed that the amplitude distribution for $E(t)$ can be expressed by Eq.(3), where $I_0(z)$ is the modified Bessel function of the zero order. The average square deviation and the average deviation of the amplitude are expressed by Eqs.(6), where β is given by Eq.(5) and $I_1(z)$ is the modified Bessel function of the first order. The ratio of the average square value of the amplitude and its mean value is expressed by Eq.(6a). The roughness of the sea surface is defined by:

$$\alpha^2 = \frac{\sum \bar{E}_s^2}{E_o^2} \quad (7)$$

Card2/5

109-3-2-2/26

On the Statistic Nature of the Scattering of Centimetre Radio Waves
by a Rough Sea Surface

so that it can be expressed by:

$$\alpha^2 = \frac{\overline{R^2}}{E_0^2} \frac{1}{1 + \beta^2} \quad (8)$$

The magnitude of the reflected wave can be determined by finding an expression for f (see Eq.(4)). The phase distribution of $E(t)$ is in the form of Eq.(12); it is impossible, however, to find the square deviation of the phase directly from this expression and therefore the dependence of the phase deviation on β is expressed indirectly by Eq.(15). The scattered waves undergo a frequency shift Ω_s which is due to the Doppler effect and is caused by the regular and random motion of the sea surface. Assuming that the regular motion has a velocity v_+ and the random motion has velocities v_s , Ω_s is expressed by:

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$$\Omega_s = \frac{4\pi(v_+ - v_s)}{\lambda} = \Omega - \Omega_{0s} \quad (16)$$

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where

$$\Omega = \frac{4\pi v_{\perp}}{\lambda} \quad \text{and} \quad \Omega_{0s} = \frac{4\pi v_s}{\lambda} \quad (17).$$

It is shown that the two velocities can be determined from the Eqs.(19) and (27). On the other hand, the low-frequency spectrum of the fluctuation envelope $F(\Phi)$ is expressed by Eq.(38), where Φ_0 , Φ_s and $2\sigma^2$ are given by Eqs.(36) and (37), while $\delta(\Phi)$ is the Dirac function. A curve of $F(\Phi)$ calculated from Eq.(1) for $\beta = 3$, $\lambda = 3$ cm, $v_0 = 10$ cm/sec. and $v_{\perp} = 0$ is given in Fig.1. The theory was checked by

some measurements which were carried out at a wavelength of 3.2 cm; the height of the transmitter was 6 m, while the heights of the receivers were 1, 7.5 and 16 m; the propagation path was 750 m. The amplitude fluctuations, as a function of time, were recorded and these are shown in Fig.2; the values of the amplitude of the received signal, as a function of the height of the receiver, are shown in Fig.3. Fig. 4 shows the overall probability of the amplitude distribution $\Phi(y)$;

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the circles denote the values obtained from the measurements, while the curve illustrates the calculated results. Fig.5 shows the sea roughness coefficient α as a function of $h_0 \theta / \lambda$ where h_0 is the average height of the surface non-uniformities, θ is the sliding angle and λ is the wavelength. From the above, it is concluded that the method of investigation adopted in this paper is suitable for determining a number of important physical parameters (β , α , φ , v_0 , v_+ and $F(\theta)$) which characterise the scattering processes. The method can also be used to study the propagation of radio waves in the troposphere and, in particular, the nature of the non-uniformities causing the tropospheric scattering. There are 5 figures and 9 references, 6 of which are Russian and 3 English.

ASSOCIATION: Institute of Radiophysics and Electronics AS of the Ukrainian SSR, Khar'kov (Institut radiofiziki i elektroniki AN USSR, g. Khar'kov)

SUBMITTED: January 18, 1957

AVAILABLE: Library of Congress

Card 5/5

1. Radio waves-Scattering
2. Oceans-Turbulence-Effects
3. Mathematical analysis

BRAUDE, S.Ya.

Propagation of ultrashort waves in a mountain area [in Ukrainian
with summary in English]. Ukr. fiz. zhur. 3 no.2:246-254 Mr-Apr '58.
(MIRA 11:6)

1. Institut radiofiziki ta elektroniki AN URSR.
(Radio, Shortwave)

SOV/142-58-4-5/30

AUTHOR: Braude, S.Ya., Men', A.V., Ostrovskiy, I.Ye.

TITLE: A Travelling Wave Antenna with Variable Zero Reception Bearings (Antenna begushchey volny s reguliruyemyi napravleniyami nulevogo priyema)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Radiotekhnika, 1958, Nr 4, pp 415-421 (USSR)

ABSTRACT: The paper discusses a system of radio reception antennae that enables 2 or more sources of radio disturbance coming from different directions, to be suppressed. The system was tested experimentally. The antenna system proposed by the author consists of: (1) Certain single-wire antennae, placed (low) over the earth, which are connected with the receiver input by a special phase rotator. (2) The paper also examines the working principle of a simple antenna system of this type, consisting of 2 parallel antennae, connected by a phase rotator. Regarding (1) the zero point can be at any value of angle φ (angle between the line of inci-

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dence of the ground wave and wire axis of the antenna) on the path of the corresponding search for angle $\Sigma \varphi$ with the help of a phase rotator. This characteristic of the antenna system can be used both for investigating radio disturbance and for direction finding. Regarding (Σ), this allows two disturbances from different directions to be suppressed. Clearly, the principle on which the 4-antenna system is based (Σ), can also be utilized to suppress 4 disturbances, requiring 2 four-wire antennae in series. The experimental tests of the qualities of this antenna were made on 2- and 4-wire antennae. The author gives technical data for the goniometer and the phase rotator. The latter allows - in the wave range 0.75-1.3 - phase rotations of high frequency oscillations within the range zero-360° with transmission factors of 0.3-0.7. The relation between the rotation angle of the phase rotator rotor and the displacement of the high frequency phases was practically linear. Experience in using a four-wire antenna showed that during

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the day this antenna ensures stable suppression of the two disturbances. At night it is more difficult to locate the direction of a disturbance and even when this was possible, suppression was not stable. An antenna was tested experimentally with one or two adjustable zero points. The qualities described are effective for the reception of "surface" waves and non-effective for space waves. There are 2 graphs, 1 circuit diagram, 1 diagram and 3 references, 2 of which are Soviet and 1 American.

ASSOCIATION: Uchenyy sovet Instituta radiofiziki i elektroniki AN USSR (Scientific Council of the Institute of Radio Physics and Electronics, Academy of Sciences, Ukrainian SSR)

SUBMITTED: January 20, 1958

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BRAUDE, S. YA.

Ю. В. Балашов

Анализ связи ионизированной среды частоты

II. СЕКЦИЯ РАСПРОСТРАНЕНИЯ РАДИОВОЛН
Руководитель Л. А. Жигулин

9 июня
(с 10 до 12 часов)

Совместное заседание с секцией общей радиотехники

А. В. Присин,
В. Ф. Губский

Некоторые вопросы теории распространения волн
при рассеянии радиоволн УКВ

А. В. Присин,
Г. М. Слободкин,
Н. П. Жигулин

Экспериментальное исследование рассеяния волн
при дальнем трансферном распространении
УКВ

12

(с 12 до 16 часов)

В. А. Волынский,
Н. А. Арнолд

О механизме потерь усиления усилителей СВЧ
при дальнем трансферном распространении
радиоволн

А. В. Шабалов

К вопросу о преломлении света в атмосфере при
измерении дальности распространения в ней СВЧ,
со строгим дифференциальным решением

В. А. Копы,
Ф. Г. Васе

К теории распространения радиоволн в среде со
случайным неоднородностью для случая проводящей
поверхности

9 июня
(с 16 до 22 часов)

А. В. Жигулин,
С. Я. Брауде

Формирование фронта при распространении
дифференциальной радиоволны над поверхностью
земли

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report submitted for the Confidential Meeting of the Scientific Technological Society of
Radio Engineering and Electrical Communications in A. S. Popov (VSEUR), Moscow,
6-12 June, 1959